



General

Guideline Title

Guideline for sharps safety.

Bibliographic Source(s)

Ogg MJ, Conner R. Guideline for sharps safety. In: 2015 guidelines for perioperative practice. Denver (CO): Association of periOperative Registered Nurses (AORN); 2013 Jun. p. 365-88. [209 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Note from the Association of periOperative Nurses (AORN): Sharps safety is a priority in the perioperative environment and includes considerations for standard precautions, health care worker vaccination, post-exposure protocols and follow-up treatment, and treatment for health care workers infected with a bloodborne pathogen. These topics are addressed in other recommended practices documents, and although they are mentioned briefly where applicable (e.g., standard precautions), the broader discussions of these topics are outside the scope of this document.

- I. Health care facilities must establish a written bloodborne pathogens exposure control plan (29 Code of Federal Regulation [CFR] 1910.1030, 2009).
- II. Perioperative personnel must use sharps with safety-engineered devices (i.e., engineering controls) (29 CFR 1910.1030, 2009).
- III. Perioperative personnel must use work practice controls when handling scalpels, hypodermic needles, suture needles, bone fragments, K-wires, burrs, saw blades, drill bits, trocars, razors, bone cutters, towel clips, scissors, electrosurgical tips, skin hooks, retractors, and other sharp devices (29 CFR 1910.1030, 2009; Perry, Parker, & Jagger, 2005; Perry, Parker, & Jagger, 2009).
- IV. Perioperative personnel must use personal protective equipment (PPE)
- V. Sharp devices must be contained and disposed of safely.
- VI. The perioperative registered nurse (RN) should demonstrate personal and professional responsibility in preventing sharps injuries and preventing the transmission of bloodborne pathogens.
- VII. Personnel should receive initial and ongoing education and competency verification on their understanding of the principles of and performance of the processes for sharps safety (Kak, Burkhalter, & Cooper, 2001).
- VIII. Documentation should reflect activities related to sharps safety (29 CFR 1910.1030, 2009).
- IX. Policies and procedures for sharps safety processes and practices should be developed, reviewed periodically, revised as necessary, and

readily available in the practice setting.

- X. Perioperative team members should participate in a variety of quality improvement activities to monitor and improve the prevention of sharps injuries.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Any condition requiring the use of surgical or other invasive procedures

Guideline Category

Prevention

Clinical Specialty

Nursing

Preventive Medicine

Intended Users

Advanced Practice Nurses

Nurses

Guideline Objective(s)

To provide guidance for identifying potential sharps hazards and developing and implementing best practices to prevent sharps injuries and reduce bloodborne pathogen exposure to perioperative patients and personnel

Target Population

Perioperative healthcare personnel and patients undergoing surgical and other invasive procedures

Interventions and Practices Considered

1. Establishment of written bloodborne pathogens exposure control plan
2. Use of sharps with safety-engineered devices (i.e., engineering controls)
3. Work practice controls when handling specific sharps
4. Use of personal protective equipment (PPE)
5. Safe containment and disposal of sharp devices
6. Personal and professional responsibility by preoperative staff in preventing sharps injuries and preventing the transmission of bloodborne pathogens
7. Initial and ongoing staff education and competency verification

8. Documentation of activities related to sharps safety
9. Development, periodic review and revision of policies and procedures for sharps safety processes and practices
10. Participation of perioperative team members in quality improvement activities

Major Outcomes Considered

- Patient and workplace safety
- Quality assessment
- Performance improvement activities

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Evidence Review

A medical librarian conducted a systematic review of MEDLINE®, CINAHL®, Scopus®, and the Cochrane Database of Systematic Reviews for meta-analyses, randomized and non-randomized trials and studies, systematic and non-systematic reviews, guidelines, case reports, and opinion documents and letters.

Search terms included: needlestick injuries, sharps injuries, blood-borne pathogens, occupational accidents, occupational injuries, medical staff, nurses, perioperative nursing, operating room nursing, perioperative nurses, operating room nurses, operating rooms, surgical procedures, surgical instruments, safety devices, sutures, scalpels, sharps, scalpel injuries, needlesticks, needle sticks, safety scalpels, safety-engineered sharps, blunt-tip needles, hands-free passing, neutral zone, double gloving, and double-gloving.

The lead author and medical librarian identified and obtained relevant guidelines from government agencies, other professional organizations, and standards-setting bodies. The lead author assessed additional professional literature, including some that initially appeared in other articles provided to the author.

The initial search was conducted in 2011 and was limited to articles published in English from 1992, when the Occupational Safety and Health Administration (OSHA)'s Bloodborne Pathogens Final Standard was established. The librarian established continuing alerts on sharps safety-related topics and provided relevant results to the lead author. The lead author and medical librarian also identified relevant guidelines from accreditation organizations, government agencies, and standards-setting bodies. In addition, the lead author requested other articles identified through literature appraisal and other outside sources.

Number of Source Documents

316 articles met the inclusion criteria and were included in the review.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

I: Randomized controlled trial (RCT) or experimental study, systematic review of all RCTs

II: Quasi-experimental study, systematic review of quasi-experimental studies or combination of quasi-experimental and RCTs

III: Non-experimental studies, qualitative studies, systematic review of non-experimental studies, combination of non-experimental, quasi-experimental, and RCTs, or any or all studies are qualitative

IV: Clinical practice guidelines, position or consensus statements

V: Literature review, expert opinion, case Report, community standard, clinician experience, consumer experience, organizational experience (quality improvement, financial)

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

Articles identified by the search were provided to the project team for evaluation. The team consisted of the lead author, three members of the Recommended Practices Advisory Board, two members of the Research Committee, and a doctorally prepared evidence appraiser. The lead author divided the search results into topics and assigned members of the team to review and critically appraise each article using the Johns Hopkins Evidence-Based Practice Model and the Research or Non-Research Evidence Appraisal Tools as appropriate. The literature was independently evaluated and appraised according to the strength and quality of the evidence. Each article was then assigned an appraisal score as agreed upon by consensus of the team.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The collective evidence supporting each intervention within a specific recommendation was summarized and used to rate the strength of the evidence using the Association of periOperative Registered Nurses (AORN) Evidence Rating Model. Factors considered in review of the collective evidence were the quality of research, quantity of similar studies on a given topic, and consistency of results supporting a recommendation.

Rating Scheme for the Strength of the Recommendations

1: Strong Evidence: Interventions or activities for which effectiveness has been demonstrated by strong evidence from rigorously-designed studies, meta-analyses, or systematic reviews, rigorously-developed clinical practice guidelines, or regulatory requirements.

- Evidence from a meta-analysis or systematic review of research studies that incorporated evidence appraisal and synthesis of the evidence in the analysis.
- Supportive evidence from a single well-conducted randomized controlled trial.
- Guidelines that are developed by a panel of experts, that derive from an explicit literature search methodology, and include evidence appraisal and synthesis of the evidence.

1: Regulatory Requirement: Federal law or regulation.

2: Moderate Evidence: Interventions or activities for which the evidence is less well established than for those listed under "Strong Evidence."

- Supportive evidence from a well-conducted research study.

- Guidelines developed by a panel of experts which are primarily based on the evidence but not supported by evidence appraisal and synthesis of the evidence.
- Non-research evidence with consistent results and fairly definitive conclusions.

3: Limited Evidence: Interventions or activities for which there is currently insufficient evidence or evidence of inadequate quality.

- Supportive evidence from a poorly conducted research study.
- Evidence from non-experimental studies with high potential for bias.
- Guidelines developed largely by consensus or expert opinion.
- Non-research evidence with insufficient evidence or inconsistent results.
- Conflicting evidence, but where the preponderance of the evidence supports the recommendation.

4: Benefits Balanced With Harms: Selected interventions or activities for which the Association of periOperative Registered Nurses (AORN) Recommended Practices Advisory Board (RPAB) is of the opinion that the desirable effects of following this recommendation outweigh the harms.

5: No Evidence: Interventions or activities for which no supportive evidence was found during the literature search completed for the recommendation.

- Consensus opinion

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The Recommended Practices for Sharps Safety have been approved by the Association of periOperative Registered Nurses (AORN) Recommended Practices Advisory Board. They were presented as proposed recommendations for comments by members and others. They are effective June 15, 2013.

Evidence Supporting the Recommendations

References Supporting the Recommendations

29 CFR 1910.1030. Occupational exposure. Bloodborne pathogens. U.S. Government Printing Office; 2009.

Kak N, Burkhalter B, Cooper MA. Measuring the competence of healthcare providers. Operations research issue paper (1). [internet]. Bethesda (MD): Quality Assurance Project for the U.S. Agency for International Development; 2001 [accessed 2013 Sep 30].

Perry J, Parker G, Jagger J. EPINet report: 2007 percutaneous injury rates. University of Virginia Health System; 2009.

Perry J, Parker G, Jagger JJ. EPINet report: 2003 percutaneous injury rates. Adv Expo Prev. 2005;7(4):42-5.

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified for selected recommendations. See the full guideline document for systematic review and discussion of evidence.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate practices for sharps safety to prevent patient and health care worker injury

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

- These recommended practices represent the Association's official position on questions regarding optimal perioperative nursing practice.
- No attempt has been made to gain consensus among users, manufacturers, and consumers of any material or product.
- Compliance with the Association of periOperative Registered Nurses (AORN) recommended practices is voluntary.
- AORN's recommended practices are intended as achievable and represent what is believed to be an optimal level of patient care within surgical and invasive procedure settings.
- Although they are considered to represent the optimal level of practice, variations in practice settings and clinical situations may limit the degree to which each recommendation can be implemented.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Tool Kits

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Safety

Identifying Information and Availability

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Jun

Guideline Developer(s)

Association of periOperative Registered Nurses - Professional Association

Source(s) of Funding

Association of periOperative Registered Nurses (AORN)

Guideline Committee

Association of periOperative Registered Nurses (AORN) Recommended Practices Advisory Board

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Financial Disclosures/Conflicts of Interest

No financial relationships relevant to the content of this guideline have been disclosed by the authors, planners, peer reviewers, or staff.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available to subscribers from the [Association of periOperative Nurses Web \(AORN\) site](#) .

Print copies: Available for purchase from the [AORN Web site](#) .

Availability of Companion Documents

A sharps safety tool kit is available from the [Association of periOperative Nurses Web site](#) .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on April 17, 2014. The information was verified by the guideline developer on May 7, 2014.

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